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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WONG, ALLEN C	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 09/02/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/990,976	LAKSONO, INDRA	
	Examiner	Art Unit	
	Allen Wong	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11 and 14-24 is/are rejected.

7)☒ Claim(s) 12 and 13 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5,6,8,10.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 23-24 have been objected to for minor informalities: line 1 of claims 23-24, "The system of claim 21" should be changed to "The system of claim 22". Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-11 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith (5,493,514) in view of Youn (6,466,623).

Regarding claims 1-2 and 7, Keith discloses a method comprising the steps of:

accessing a first index table (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed);

accessing a first plurality of macroblock information in a first order at a video decoder to generate a first decoded image, wherein the first order is based upon the first index table and the first plurality of macroblock information are associated with a source macroblock (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; Keith discloses video decoding the information from the lookup table that stores data pertaining to macroblock data like quantization level and motion vector data in a certain order); and

wherein the macroblock information includes motion vector and quantization information (col.41, ln.28-34).

Although Keith does not specifically disclose accessing the first plurality of macroblock information to generate a first estimated destination motion vector, however, Youn teaches accessing the first plurality of macroblock information to generate a first estimated destination motion vector (fig.12, note Youn discloses the transcoding of image data where element 626 is the input source motion vector data that enters into the motion vector circuits 1204, 1202 and 1206, and that the output of element 1206 is considered to be the estimated destination motion vector). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Regarding claims 3-5, 8, 10 and 11, Keith discloses wherein the first index table includes a plurality of entries, each one of the plurality of entries comprising a pointer portion to hold a value indicating a location of a source macroblock information with an end of destination macroblock portion to hold a value indicating if an entry of the plurality of entries is the last entry associated with the first destination macroblock information (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; Keith discloses the use of pointers to indicate the position of a value from the lookup table or index table of the entry of the block portion).

Regarding claims 6 and 9, Keith disclose wherein each entry of the plurality of entries are arranged relative to each other entry of the plurality of entries to indicate the first order (col.42, ln.66 to col.43, ln.15).

Regarding claim 22, Keith discloses a system comprising:

a first input port to receive source video data (fig.4, note input frame is entered);

a controller portion coupled to the first input port to determine macroblock information data corresponding to the received source video data, wherein the macroblock information includes motion vector and quantization information (fig.4, element 404 is the unit that determines the macroblock information data by classification, and in col.41, ln.28-34, Keith discloses the macroblock information includes quantization data and motion vector data);

a first memory control portion coupled to the controller portion to save a plurality of source macroblock information corresponding to the source video data (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed); and

an index table generator coupled to receive a size indicator of a destination image and to generate an index table identifying a first portion of the plurality of source macroblock information, the index table based upon the size indicator of the destination image (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed to store information pertaining to identify a certain portion of plural macroblock data, and that the image size is accounted for as shown in fig.15).

Although Keith does not specifically disclose generate a first destination source motion vector, however, Youn teaches generate a first estimated destination motion

vector (fig.12, note Youn discloses the transcoding of image data where element 626 is the input source motion vector data that enters into the motion vector circuits 1204, 1202 and 1206, and that the output of element 1206 is considered to be the destination source motion vector). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Keith does not specifically disclose the system further comprising: a second memory control portion coupled to retrieve source macroblock information based upon index table entries; an encoder portion coupled to the second memory control portion to generate destination vectors based upon the retrieved source macroblock information. However, Youn teaches the use of a memory controller and an encoder portion (in the embodiment of fig.3, note element 34 is the motion estimator that goes to memory 326 to access and retrieve source macroblock data, and that the estimator 324 uses the source macroblock data to generate motion vector data, thus, the function of the second memory control portion is met since source macroblock data is retrieved, and where encoder element 316 eventually obtains the image data and prepares for coding). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Regarding claim 24, Keith discloses wherein the index table generator is implemented using a general purpose processor core (col.5, ln.30-33).

Claims 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith (5,493,514) in view of Chen (6,259,741).

Regarding claims 14 and 19, Keith discloses a method comprising the steps of:

storing video source macroblock information for each source macroblock of a first plurality of source macroblocks (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed for storing video source macroblock information);

determining an index table having a plurality of entries, the index table based upon a video source resolution and a video destination resolution, wherein a location of each source macroblock information for each macroblock is referenced by a corresponding entry of the index table (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; Keith discloses video decoding the information from the lookup table or index table that stores data pertaining to macroblock data like quantization level and motion vector data in a certain order); and

storing the index table (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed for storing video source macroblock information).

Although Keith does not specifically disclose the index table based on video source resolution and a video destination resolution, however, Chen teaches the index table based on video source resolution and a video destination resolution (fig.8, note Chen teaches the use of a transcoder for converting image data from one video source resolution to another resolution in that the input is the 4:2:2 bitstream and the output is

the 4:2:0 bitstream, and, the Q-matrices 385 and 390 contain information regarding quantization values and other pertinent image data which must be stored in a quantization lookup table or index table). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Chen, as a whole, for precisely and efficiently decoding and coding image data so as to provide high quality image display (Chen col.4, ln.38-48).

Regarding claims 15-18, Keith discloses the use of a data instruction packet (col.42, ln.11-23; note data bitstream comprises instructions to identify the location of a the index table, where pointer values are included in the instruction data). Although Keith does not specifically disclose the use of a transcoder, however, Chen teaches the use of a transcoder (see fig.8 and col.5, ln.8-10; the transcoder comprises the decoder portion and the encoder portion as seen when the image data is variable length decoded at 305, and then, after further processing, variable length encoded at 395, thus, the image data is transcoded).

Regarding claims 20-21, Keith discloses the method of claim 14, wherein the index table includes an end of macroblock indicator to indicate a portion of the index table associated with a destination macroblock (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; the pointer is used to index the table for indicating the position of a value from the lookup table or index table of the entry of the block portion).

Allowable Subject Matter

3. Claims 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not specifically disclose accessing a second index table; accessing the first plurality of source macroblock information in a second order at the video decoder to generate a second decoded image, wherein the second order is based upon the second index table and the first plurality of source macroblock information are associated with a source macroblock; accessing the second plurality of source macroblock information to generate a second estimated destination macroblock information. The prior art does not specifically disclose generating a first macroblock based upon the first estimated destination vector, and a second macroblock based upon the second estimated destination vector, the first and second macroblocks are to be displayed simultaneously in real time.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen Wong
Examiner
Art Unit 2613

AW
9/1/04